KELLY HUME

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EMPLOYMENT

Jan. 2008 – Present **Caltech Post Doctoral Research Scholar, NASA JPL, Pasadena U.S.A**
Working in the laboratory studies and modelling group with Dr. Stan Sander I am developing a laser flash photolysis/absorption system with the aim of studying the chlorine peroxide molecule and elucidating the absorption cross section as a function of wavelength. In combination with this work I am also investigating other possible systems leading to destruction of polar stratospheric ozone.

May 2004 – Oct. 2004 **Sanofi-Aventis Ltd., Holmes Chapel laboratories, Cheshire. UK**
Working as an aerosols analyst within the analytical research and development (ARD) department I carried out routine tests on pharmaceutical actives delivered via aerosol suspension. Such tests included particle size testing using Anderson cascade impactors, weight expelled and dose expelled. All analysis was carried out using HPLC and reported using Waters Millennium 32 software.

Aug. 2002 - Aug. 2003 **Pfizer Ltd., Sandwich Laboratories, Kent. UK**
Working within the Technology Development team in ARD, my role involved the use, support and implementation of new and existing automated systems in conjunction with UV-vis, HPLC and fluorescence detection. I performed the qualification of new semi automated dissolution systems, weekly safety checks and risk assessments together with training other analysts on the operation of the systems. The routine work carried out comprised much troubleshooting and helped me improve my ability to interrogate systems and data.

EDUCATION

Oct. 2004 – Jan . 2008 **PhD in gas phase chemical kinetics at the University of Leeds, UK**
Working for Dr. Paul. Seakins and Professor M. J. Pilling with an EPSRC studentship, I am using laser flash photolysis/ laser induced fluorescence to study the kinetics and product yields of chemical systems relevant in interstellar and planetary atmospheres. My work has focused on pressure dependence of H atom yields of CN reactions with selected hydrocarbons, and the H atom yields of methylene reactions with hydrocarbons along with rates of CH_2 collision induced intersystem crossing and its dependence on nuclear spin state and temperature. The primary aim of this work is to provide more accurate data to facilitate production of accurate models of planetary atmospheres. (Extra detail attached)

Oct. 2000 – June 2004 **1st class hons in MChem Chemistry Ind. The University of Leeds, UK**
Comprising core chemistry modules in organic, inorganic and physical chemistry together with practical sessions in each area, and electives in biochemistry and astrophysics. For my third year I opted to take a year in industry, completing my third year university modules by distance learning alongside my industrial research. For my Masters research project I studied solution phase chemical kinetics, oscillations, waves and chaos in working to develop a batch pH oscillator.

Loreto Girls Grammar School, Altrincham, UK
A' Levels: Biology (B), Chemistry (C), Physics (C), General Studies (B)
GCSE's. Achieved 9 at grade A*/A including maths & English language

INTERESTS AND ACTIVITIES

As a member of the St. John's Ambulance Brigade I have achieved many first aid awards and have been on duty at large scale public events such as concerts and premiership football matches. My judgement, good communication and the ability to work effectively as a team member are crucial here. I enjoy many sports such as field hockey, snowboarding, windsurfing and I am a qualified PADI Open Water scuba diver. I play the electric guitar and am a keen amateur astronomer. I am well travelled having spent my university summer vacations travelling around Thailand, Indonesia, the east coast of Australia, North Africa and Kenya.

OTHER SKILLS

- Familiar with working to cGMP and cGLP standards
- Familiar with HP ChemStation and Waters Millenium-32 HPLC software
- Familiar with Facsimile numerical integrator, Maple 9, LabView, and Origin 7 software
- Cambridge certificate of Information Technology
- Microsoft Word, Excel and PowerPoint intermediate and advanced one day training courses passed and this software subsequently used on a daily basis.
- Confident to speak publicly, having given oral and poster presentations at academic and professional conferences.
- Experienced at training others to use software and equipment, having worked for three years as a demonstrator in the physical chemistry undergraduate labs, and supervised masters students.
- Competent at scientific writing having written numerous academic and professional reports and papers for scientific journals.
- Full UK and US (CA) driving licence.

REFERENCES (additional references available on request)

Dr. Stan Sander	Professor M. J. Pilling	Professor P. W. Seakins
Group Supervisor	Head of Physical Chemistry	Senior lecturer
Jet Propulsion Laboratory	School of Chemistry	School of Chemistry
M/S 183-901	University of Leeds	University of Leeds
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PUBLICATIONS

Sander, Stanley; Bayes, Kyle; Hume, Kelly. "**Laboratory studies of rate limiting steps in the catalytic destruction of polar stratospheric ozone.**" Abstracts of papers, 237th ACS National meeting, Salt Lake City, UT, United States. March 22-26, 2009

Gannon, Kelly L.; Glowacki, David R.; Blitz, Mark A.; Hughes, Kevin J.; Pilling, Michael J. and Seakins, Paul W. "**H atom yields from the reactions of CN radicals with C_2H_2, C_2H_4, C_3H_6, trans-2-C_4H_8 and iso-C_4H_8.**" *J. Phys. Chem. A* , **111**, (29), 2007.

Gannon, Kelly L.; Blitz, Mark A.; Harding, Lawrence; Klippenstein, Stephen; Pilling, Michael J. and Seakins, Paul W. **"The kinetics and product branching ratios of the reaction of $^1CH_2$ with H_2 and D_2"** *J. Phys. Chem. A* , **112**, (39), 2008.

Gannon, Kelly L.; Kovács, Tamás; Wilson, Jacquiline M.; Blitz, Mark A.; Pilling, Michael J. and Seakins, Paul W. "**Collisional Relaxation of $^1CH_2$ by Simple Molecules and Noble Gases as a Function of Temperature and Nuclear Spin State**." *J. Phys. Chem. A.* In preparation

Kovacs, K.; McIlwaine, R.; Gannon, K. L.; Taylor, A. F.; Scott, S. K. "**Complex Behaviour in the Formaldehyde-Sulfite Reaction**." *J. Phys. Chem. A,* **109** (1), 283 -288, 2005